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# San Juan Hills Area Plan

ADOPTED  
MARCH, 1988

City of Belmont,  
California





**SAN JUAN HILLS**

**AREA PLAN**

**ADOPTED AS AN AMENDMENT TO THE GENERAL PLAN**

**BY THE CITY COUNCIL**

**MARCH 22, 1988**

**CITY OF BELMONT**



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## SAN JUAN HILLS AREA PLAN

### I. INTRODUCTION

#### A. AUTHORITY FOR AREA PLANS

California Government Code Section 65100 and 65301 authorizes cities to develop Area Plans for sub parts of their jurisdiction. The Area Plan serves as a means to develop focussed policies in the General Plan designed to address the unique problems and assets of that area. Area Plans, when adopted, become part of the General Plan for the City. They must be consistent with the overall goals, objectives and policies of the General Plan. In turn, subsequently approved zoning and subdivision controls within the Area Plan boundaries, as well as public works projects and individual development permit approvals must be consistent with the Area Plan as well as the broader General Plan.

#### B. THE PLANNING AREA

The San Juan Hills is identified as an area of special interest in the General Plan. As shown on Figure 1, it comprises about 20% of the land area of the City. It is bounded by Ralston Avenue on the south, Cipriani Blvd. on the east, the City of San Mateo on the north and the County of San Mateo on the west.

Single family homes are the predominant use in the area, interspersed with significant amounts of vacant land. Other uses include churches, schools, and a city water pumping station.

#### C. THE PURPOSE OF THE SAN JUAN HILLS AREA PLAN

This Area Plan has been developed to address the unique conditions within the San Juan Hills. The San Juan Hills contain most of the remaining vacant residential land in the City. A substantial portion of that vacant land was subdivided in the early 1920's. As a result of sale of subdivided lots, ownerships are now highly fragmented. Unsubdivided land is also fragmented into irregular parcels which present major obstacles to quality development and appropriate open space preservation.

The vacant land in the San Juan Hills contains many valuable natural features, including creeks, dense stands of trees, and rock outcropping. It is also directly adjacent to Sugarloaf Mountain, a major natural landmark

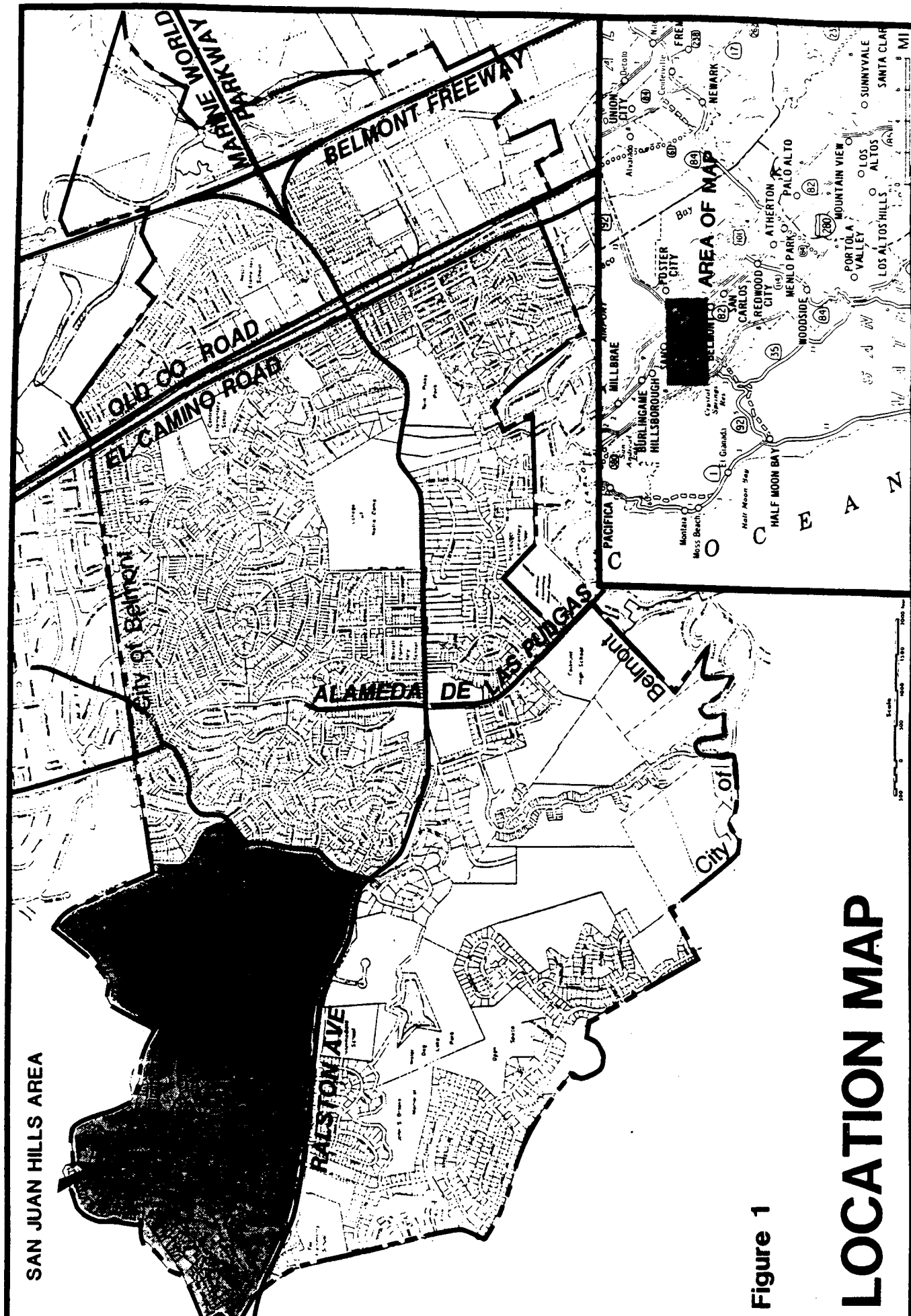


Figure 1

# LOCATION MAP



now designated for open space preservation in the City of San Mateo. Views into and across the San Juan Hills toward Sugarloaf, and beyond to San Francisco Bay, are among the best in the City. As a whole, this area is a significant enclave of natural hillside and canyon environment that is rare in the rapidly urbanizing Peninsula region.

The San Juan Hills area is also beset by a combination of severe geologic hazards and flood hazards, with multidirectional instability on almost every slope in the area. Even within the more stable areas, slopes are extremely steep, with few parcels below 20% average slope and many parcels exceeding 40, 50, or even 60% slope.

Infrastructure, including roads, drainage facilities, water and sewer services have not been extended into most vacant areas, partly because of extensive geologic hazards and steep slopes. The extension of infrastructure presents problems in terms of cost, financing, safety, feasibility, and environmental quality.

Each of these problems are discussed in more detail in the following section. However, it is clear that the City's current planning and development controls are not adequate to address the unique features of the San Juan Hills Area. The principle goal of this Area Plan is to lay the basic policy framework for new zoning and subdivision standards, and new public and private approaches, that will resolve the development problems and preserve appropriate open space within the San Juan Hills Area.

D. ORGANIZATION OF THE SAN JUAN HILLS AREA PLAN

Section II of this Plan, "Problems and Assets of the San Juan Hills" provides data and analysis on three major topics: Natural Conditions, Land Use and Site Controls and Infrastructure. This section is provided to supply background information. Alternatives discussed in this Section are included to facilitate understanding of the issues and the development of recommendations in Section III.

Section III of this Plan contains Goals, Objectives and Policies. These are the Plan's recommendations. This is the Section of the Plan that will direct private and governmental action and guide decision making for the future development of the San Juan Area. As such, this Section is the most important part of the Plan.

E. SAN JUAN COMMITTEE

The problems of development in the San Juan Hills have long been a subject of City attention and planning proposals.

In 1983, the City Council decided to take a new approach to planning for San Juan by appointing a special committee to work with City planning staff to make recommendations on land use and infrastructure in this area. The San Juan Committee consists of two members of the City Council, one member of the Planning Commission and three homeowner association representatives. Upon their request, all interested parties, including landowners, were put on the Committee mailing list and received committee agendas and minutes. All meetings of the Committee were open to the public. The recommended goals, objectives and policies in the Draft Area Plan published in June 1986 were products of this Committee.

F. PLANNING COMMISSION AND CITY COUNCIL PUBLIC HEARINGS

The Planning Commission held 15 public hearings and recommended approval of the Area Plan in October 1987. The City Council held eight public hearings and adopted this Area Plan on March 22, 1988. The policies incorporated in this Plan are those that were adopted by the City Council on that date. An Environmental Impact Report was prepared on this Plan and was certified by the City Council on March 22, 1988.

## II. PROBLEMS AND ASSETS OF THE SAN JUAN HILLS

### A. NATURAL CONDITIONS

#### 1. Geologic Hazards.

##### a. Geologic Data.

In April, 1985, William Cotton and Associates prepared a Geologic Hazards Analysis of the San Juan Canyon Study Area. The primary purpose of that study was to characterize soil, geologic and seismic conditions, and to determine the potential geologic hazards affecting development projects in the study area. The methods employed to collect geologic information included: (1) compilation and evaluation of all available, pertinent published and unpublished soils, geologic and seismic data; (2) stereoscopic analysis of vertical aerial photographs; and (3) Engineering geologic field mapping through detailed "onsite" ground reconnaissance of the entire study area. From this data, a Engineering Geologic Map was compiled at a scale of 1"=200'. Further analysis included analysis of relative slope stability and preparation of a Ground Movement Potential Map. Finally, William Cotton and Associates evaluated the levels of risk associated with geologic hazards in the San Juan Hills and provided recommendations to effectively deal with these risks in future development of the area in the Geologic Hazard Analysis of the San Juan Canyon Study Area, April 1985. All descriptive material on geologic hazards in this Area Plan and policy related to Geologic Hazard is derived from the Committee's evaluation of that study. The study is on record in the City of Belmont Planning Department.

##### b. Site Stability.

Several factors contribute to the relative instability and high geologic hazard level of vacant land in the San Juan Area. First, the study area is situated a little more than one mile from the active San Andreas fault, one of the largest, potentially most hazardous faults in the world. Potential risks of earthquake damage include high intensity ground shaking and ground failure triggered by earthquakes. Second, most stable upland or mesa terrain in the study area has already been developed. The vast majority of remaining vacant lots are located on relatively steep side slopes. Thirdly, large portions of these steep side slopes contain landslide deposits and unstable soils. Many stable valley bottom sites on relatively

flat land are potentially impacted by rapid landslide movement originating on unstable ground slopes.

Figure 4, the Geologic Hazard Policy Map depicts a summary of geologic conditions in the area and how they affect land use. The abbreviations referring to categories of geologic hazards that are shown on that map are described in more detail below:

#### Areas of Relatively Stable Ground

- Sbr Level ground to moderately steep slopes underlain by bedrock within several feet of the ground surface. Soil or alluvial cover may be subject to shallow sliding, soil creep, or settlement.
- Sun Unconsolidated granular material (alluvium, slope wash, and thick soil) on level ground and gentle slopes. Subject to settlement and soil creep. Liquefaction possible at valley floor sites during strong earthquakes.
- Sex Generally highly expansive, clay-rich soil and bedrock. Subject to seasonal shrinking and swelling, rapid soil creep, and settlement. May include areas of non-expansive material. Expansive soils may also occur within other map units.
- Sff Large areas of engineered fill placed upon flat or gently-sloping ground. Subject to localized settlement where placement might not have met engineering specifications.

#### Areas of Potentially Unstable Ground

- Pfs Potential failure within large areas of engineered fill that was placed upon moderately steep to steep ground. Subject to localized settlement, landsliding, and debris flow activity where placement might not have met engineering specifications.
- Ps Relatively unstable material including landslide debris, slope materials (i.e., thin soil, slope wash, etc.), and weak bedrock, commonly less than 10 feet in thickness on gentle to moderately steep slopes. Subject to shallow slow-moving landsliding, slumping, and soil creep.

Pd Relatively unstable landslide debris commonly more than 10 feet in thickness on moderately steep to very steep slopes. Subject to renewed deep slow-moving landsliding.

Pdf Steep to very steep terrain mantled with a thick cover of soil, colluvium, and landslide debris that is susceptible to rapid downslope movement in the form of debris flows or earth flows. Includes high energy flow path and runout depositional areas on lower gradient areas.

#### Areas of Unstable Ground

Ms Moving shallow landslides, commonly less than 10 feet in thickness and slow moving.

Md Moving deep landslides, more than 10 feet in thickness and slow moving.

Table 1 summarizes the number of dwelling units currently permitted on vacant land in each geologic category. The results show there is very little vacant land in the study area considered to be stable. The 'Sbr' category is upland flat areas that are already completely developed, with the exception of a few vacant subdivided lots in the vicinity of Belmont Canyon Road and Naughton Avenue. All of the 'Sun' category is along the canyon bottoms, limited to the road right of way of San Juan Canyon Blvd. and the creekbed of Laurel Creek. All other vacant land in the San Juan Hills is either potentially unstable or actively unstable.

Twenty-seven of the dwelling units currently permitted on subdivided lots are located on moving deep landslides (MD) and 58 on potential debris flows (PDF). The San Juan Committee has recommended that PDF areas, along with MD areas be treated as the most critical geologic hazard areas, with the most restrictive land use regulation. (See Table 6.) The strict restrictions on all development in the Md areas is based on the recommendation of the William Cotton Study. In addition, the Committee took a very restrictive approach to residential development in Pdf areas, primarily because of the descriptive material contained on Pages 20-25 of the Geologic Hazards Analysis Report by William Cotton and Associates. The consultants note the high degree of risk of personal injury and death associated with activation of PDF areas, as well as risk of property damage. In addition, while the location of potential debris flows can be identified, such flows can occur suddenly, with little or no warning, and can extend far beyond the immediate area of unstable ground.

TABLE 1  
VACANT LAND IN SAN JUAN AND SLOPE STABILITY  
Dwelling Units Currently Permitted

Ground Movement Potential	On Vacant Subdivided Lots(1)	Percent Total(2)	In Vacant Unsub- divided Areas(1)	Percent Total(2)
Areas of Rela- tively Stable Ground:				
Sbr	15		0	
Sun	0		4	
Sex	0		5	
Sff	1		0	
----- Subtotal	16	4%	9	10%
-----	-----	-----	-----	-----
Areas of Potentially Unstable Ground:				
Pfs	11		6	
Ps	242		54	
Pd	58		17	
Pdf	58		4	
----- Subtotal	369	88%	81	88%
-----	-----	-----	-----	-----
Areas of Unstable Ground:				
Md	27		1	
Ms	7		1	
----- Subtotal	34	8%	2	2%
----- TOTAL:	419	100%	92	100%

(1) Generalized estimates of the number of units currently permitted.

(2) Percentage numbers are rounded.

c. Summary of Geologic Hazards.

In conclusion, there is very little vacant land in San Juan that is free of geologic hazard. Residential development on most of this land will be uncertain, and will require site specific geologic studies and mitigation that address both site development and infrastructure. Mitigation of unstable conditions, whether through excavation and recompaction, or retaining walls can be very costly. Such work can itself cause problems, such as vegetation removal and erosion.

2. Steep Slopes

Steep slopes raise other issues, over and above the relationship to geologic instability. Building on the "uphill" side of steep slopes generally requires extensive grading, drainage alteration and removal of vegetation. If graded slopes are not adequately replanted or engineered after construction substantial erosion and subsequent sedimentation of streams and clogging of storm drainage pipes can occur. Building on the "down hill" side of steep slopes may require less grading, but can result in structures that are highly visible, inadequately setback from the street and oversized in appearance. In general, provision of infrastructure is more expensive on steep slopes. In the steepest areas, provision of standard roads may require so much grading into adjacent lots that the buildability of these lots is greatly reduced.

a. Measurement of Slopes and Implications for Development.

Percent of slope is a measurement of steepness--the ratio of the vertical to horizontal distances as expressed by a percent. As illustrated below, a 50% slope is one which rises vertically 5 feet over a 10 foot horizontal distance:

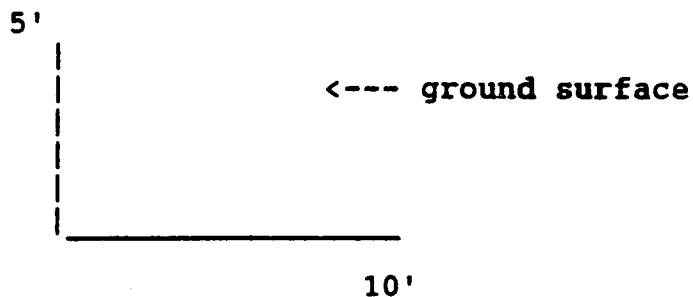


Table 2 illustrates the relationship of the percent of slope to the degree of development constraint.

TABLE 2

SLOPE AND DEVELOPMENT CONSTRAINTS

Percent of Slope	Slope Characteristics
0 - 5%	Relatively level land, little or no development constraints due to steepness of slope.
5 - 15%	<p>Minimum slope constraints increasing to moderate slope constraints at 15%. The maximum grade considered acceptable on subdivision streets is approximately 15%. At this slope, roads may run parallel with contours or, in order to limit the amount of cut and fill, roads may be run perpendicular or diagonally to contour.</p> <p>In the 5 - 15% slope range, grading impacts are generally those associated with pad type grading for homes and associated yard areas. Cut slopes to accommodate a 40 foot wide level building site range from 1-1/2 to 4 feet in height. A 40 foot deep level pad would have a cut slope of 4 feet and a fill slope of 4 feet coming back down to natural grade. A building site which was all cut and no fill would have a cut slope of approximately 8 to 10 feet in height.</p>
15 - 30%	<p>Slope becomes a moderate to significant factor in development at this steepness. Development of level building sites requires more extensive cut and fill in this slope category and the design of individual houses to fit terrain becomes important. A 40 foot deep, level building site constructed on 1/2 cut and 1/2 fill would contain cut and fill slopes ranging from 4 feet in height at the lower slope range up to 16 feet in height at the upper slope range. Single pad type grading becomes unsuitable at the upper end of the slope range.</p>
30 - 50%	<p>Slope is critical in this range. Allowable steepness of cut and fill slopes coincide with natural slopes resulting in very large cuts and fills under conventional development. Standard pad type construction is unsuitable in this slope range. Typically, a retaining wall or series of retaining walls would be necessary to construct level building areas. Often, homes are constructed in a terraced fashion with foundations designed to follow the contours of the ground. However, grading necessary for driveways and appurtenant yard areas will still result in cut and fill slopes <u>starting</u> from 12 feet in height at the lower slope range and up.</p>
50%+	<p>Almost any development can result in significant ground disturbances in this slope category. Except in the most stable ground, special retaining devices are usually needed.</p>



- b. Slopes of San Juan Hills Parcels. Average slope has been estimated for each vacant, unsubdivided parcel and each vacant subdivided lot adjacent to an unimproved road. A summary of this analysis is provided in Table 3. Less than 10% of all vacant unimproved land in San Juan has an average slope below 20%. Over 60% of all the land has average slopes in excess of 30%, where slope is a critical factor in development. This analysis demonstrates that the vast majority of vacant land in the San Juan Hills Area is extremely steep, and thus subject to the serious problems and development constraints described in Table 2.

3. Views and Open Space

Three significant types of views characterize the San Juan Hills. First, despite the fact that a substantial portion of the study area is developed, there are still large sections of vacant land. Much of the vacant land remains is completely undisturbed, in its natural state. Thus, from inside parts of the study area, particularly Laurel Creek Canyon and Laurel Creek at the base of Sugarloaf Mountain, one has the impression of being in a large open space area, completely secluded and protected from surrounding development.

Second, views across the study area are quite impressive. The higher points of the Skymont, and Plateau neighborhoods are afforded spectacular views across Laurel Creek Canyon to Sugarloaf Mountain. The Cipriani Neighborhood has views towards Sugarloaf, with higher locations having views over San Francisco Bay, and beyond toward the San Francisco skyline.

Third, much of the study area is clearly visible from State Highway 92 and from portions of Ralston Avenue, two major regional scenic highways.

The quality of natural views in the area are decreased by the nature of some recent development. Very large, or very tall houses, when built on the steep slopes look even larger. Large cuts with high retaining walls on upslope development also detract from views. If the currently vacant land along unimproved roads is fully developed, in the current lot pattern and under existing regulation, much of the existing natural environment or vegetation will be removed. Views will deteriorate in quality.

Aside from its visual quality, vacant land in the San Juan Hills offers an open space experience. Rough, unimproved trails along the alignment of unimproved roads appear to be used by walkers and joggers. Laurel Creek and Laurel Creek

TABLE 3  
AVERAGE SLOPE OF VACANT LAND IN THE SAN JUAN HILLS\*

Slope Ranges	No. Of Acres	Percent of Total
0 - 20%	14.45	9.2%
21 - 30%	46.50	29.6%
31 - 40%	50.70	32.3%
41 - 50%	37.00	23.5%
+50%	8.25	5.3%
=====	=====	=====
TOTAL	156.9	99.9%

\* Excludes vacant subdivided lots adjacent to improved roads.

Canyon, both adjacent to Sugarloaf, offer a running stream. Such open space is needed in Belmont. There are no public parks in the San Juan Hills Study Area. Using city-wide standards of 3.5 acres per 1000 people for neighborhood parks, and 5.0 acres per 1000 for community parks, the city is about 50 acres deficient in adequate park space. This particular area of the City has a 4.6 acre deficiency of neighborhood parks. While the passive, open space recreational uses suitable for this area will not supplant the need for active recreational facilities, public open space in the San Juan Hills certainly could meet some of the community wide park deficiency.

#### 4. Vegetation and Natural Resources

The San Juan Study Area is physically isolated from the upper reaches of the Santa Cruz Mountains, first by adjacent development and then by State Highway 92. Migratory wildlife that might otherwise inhabit this area are unlikely to do so.

The State Department of Fish and Game Natural Diversity Data Base indicates that there are no rare or endangered species of plant or animal life inhabiting the study area. Rather, vegetation in the area reflects typical vegetation for the foothills on the bayside of the Peninsula, fast disappearing as development proceeds in the foothills. Major tree masses, mainly oak, cover the western slopes of San Juan Canyon and the slopes south of Laurel Creek. Riparian vegetation including sycamores, abuts both sides of Laurel Creek. Dense stands of oaks dominate the upper drainages of Laurel Creek Canyon. The remaining vegetation consists of grasslands and chaparral. Development in the current pattern could result in major vegetation removal, particularly the tree cover that is so characteristic of the area at the present time.

General wildlife species associated with the vegetation and habitats found in the San Juan area are: turkey vulture, red-tailed hawk, California quail, mourning dove, bush-tit, bewick wren, ground squirrel, racoon, white-footed mouse and black-tailed deer. The abundance of trees in the San Juan area attracts bird species associated with the natural habitats. Large areas currently undeveloped, particularly in Laurel Creek Canyon, permit birds, racoons, squirrels and deer free movement.

B. LAND USE AND SITE CONTROLS

1. Location, Size and Ownership of Vacant Land.

Figure 2, Vacant Lands and Unimproved Roads, shows three categories of vacant land in the San Juan Hills: (1) vacant parcels of unsubdivided land, primarily in Laurel Creek Canyon; (2) scattered vacant subdivided lots along improved roads and (3) vacant subdivided lots along unimproved roads. The map also distinguishes between "paper" unimproved roads, that is, roads only existing on the map or as walking trails, and unpaved substandard roads that are in regular use by vehicles and used as access to homes. Table 4 summarizes information of the size, number of lots and ownership pattern of each subarea.

2. History of Subdivision in the Study Area.

The current subdivision pattern in San Juan was established in four subdivisions approved from 1925-1927, (1) collectively known as Belmont Country Club Estates. The City of Belmont had just been incorporated, and the original incorporation boundary did not encompass the entire San Juan Hills Study Area. As a result, three of the four subdivisions were bisected by the City/County boundary line and were approved by both local agencies within their respective jurisdictions. Subsequently, the entire study area was annexed into the City, with the existing lot pattern precommitted.







3. Current Developed and Vacant Land

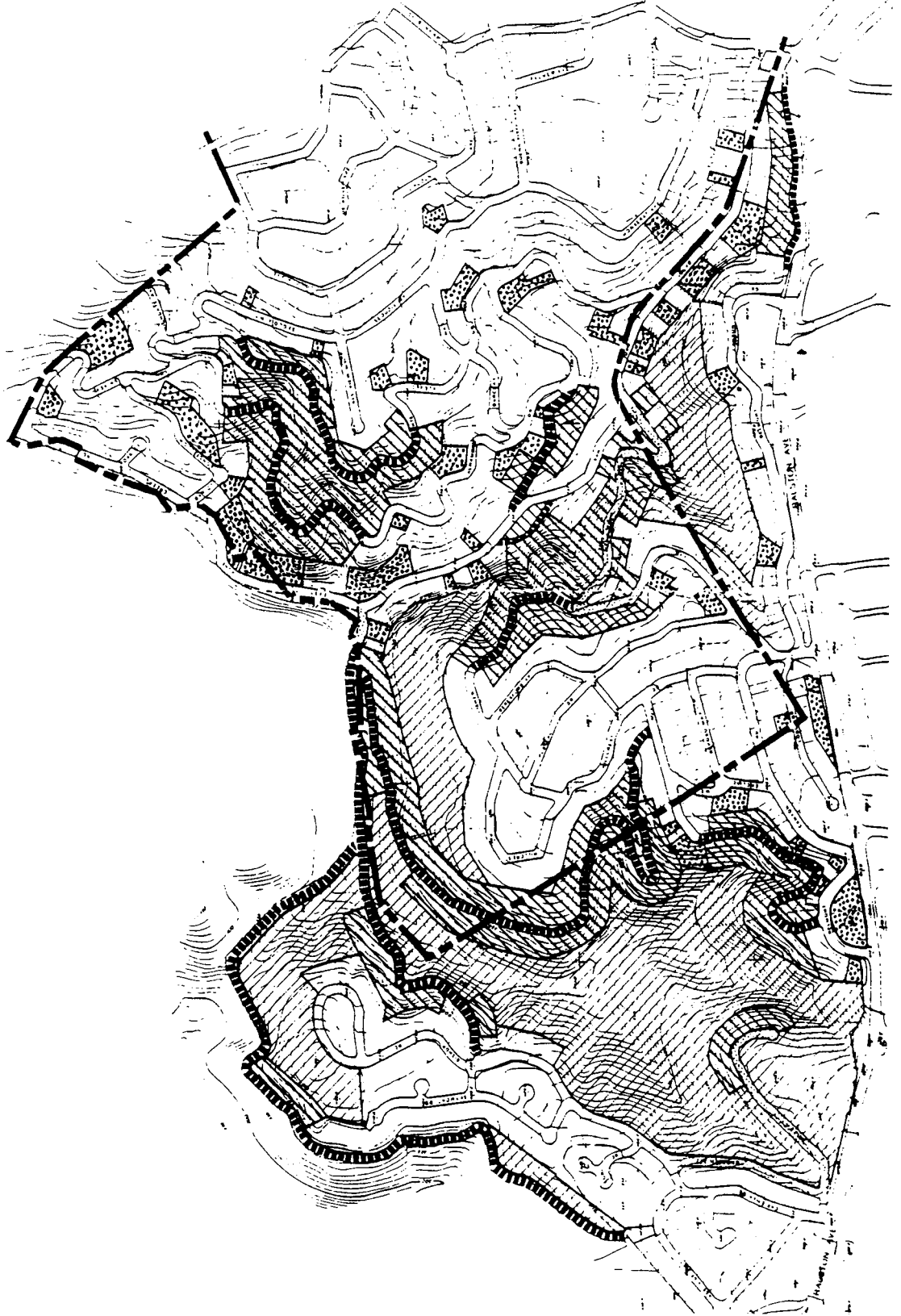
At the present time, fully two-thirds of the study area is developed with over 1100 existing dwelling units. The vast majority of units are located on three plateaus: Skymont, Plateau and Cipriani. Most vacant lots are located along unimproved roads in between these existing developments, and in larger parcels of land not served by road access. A total of 402 vacant lots, covering a total 156.9 acres exist in this condition as shown in Figure 2. The lot and parcel patterns do not conform to the topographical con-

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- (1) Subdivision 5, 10-6-25; approved by City of Belmont; Subdivision 8, 12-24-26; approved by City of Belmont and County of San Mateo, within their respective jurisdictions; Subdivision 9, 12-29-26; approved by City of Belmont and County of San Mateo, within their respective jurisdictions; Subdivision 10, 3-24-27; approved by City of Belmont and County of San Mateo, within their respective jurisdictions.

Figure 2

-  VACANT UNSUBDIVIDED LAND
-  VACANT SUBDIVIDED LOTS ON UNIMPROVED ROADS
-  VACANT SUBDIVIDED LOTS ON IMPROVED ROADS
- UNIMPROVED ROADS**
-  PAPER ROADS
-  UNPAVED SUBSTANDARD ROADS
-  CITY BOUNDARY AT TIME OF SUBDIVISION (1926 - 27)



## Existing Vacant Land and Unimproved Roads



TABLE 4

## SIZE AND OWNERSHIP CHARACTERISTICS OF VACANT LAND

Sub Area	# Lots	Acreage	# Total Separate Ownerships	Average Ownership Size (sq.ft.)	# Single Lot Ownerships under 6000 sq.ft.(1)	Range of Average Slopes
I. Vacant Lots on Unimproved Roads						
A. Green Court	12	1.97	6	14,281	2	36 - 45%
B. Naughton Avenue	42	6.32	22	12,522	8	15 - 56%
C. Bartlett Avenue	110	30.02	20	65,376	2	25 - 57%
D. Marsten Avenue	11	3.06	6	22,231	0	25 - 41%
E. Marburger	35	6.10	17	15,637	7	32 - 56%
F. Lower Lock	28	4.84	15	14,069	3	31 - 58%
G. Upper Lock	13	2.10	5	18,290	0	33 - 50%
H. San Ardo Way	12	2.04	8	11,087	1	28 - 38%
I. Alhambra	42	8.44	17	21,620	3	21 - 72%
J. Monte Cresta	48	7.35	35	9,141	13	24 - 75%
K. Laurel Creek Canyon (unsubdivided)	12	67.04	9	324,450	0	15 - 42%
L. Laurel Creek Road	9	2.11	6	15,342	2	30 - 49%
M. Marburger (unsubdivided)	8	11.32	6	82,199	0	43 - 68%
N. San Juan Canyon adjacent	6	1.49	3	21,582	0	23 - 53%
O. Ralston Frontage	14	2.50	11	9,963	1	25 - 44%
SUB TOTAL	402	156.90	186	42		
II. Vacant Lots on Improved Roads	102	N/A(2)	80	N/A	N/A	N/A
TOTAL ALL VACANT LOT	504		266			

(1) Many individual lots are smaller than 6000 sq. ft. As of 1979, over half of the then vacant lots, 282, were below 6000 sq. ft. in size.

(2) Data is not available.





straints, and as shown on Table 4, the average slopes of ownership are extremely high, between 15% at the minimum and 75% at the maximum. The potential buildout density resulting from the existing lot pattern is simply too high relative to the slope, geologic stability and potential for development of physical access to the area.

#### 4. Current Ownership Patterns

These 402 vacant lots without improved access are in 186 separate ownerships. Figure 3, Statistical Subareas, show the various subparts of the San Juan Area. Each subpart includes all the lots requiring access off of the same unimproved road. The subareas on Figure 3 correspond to the subarea ownership characteristics shown on Table 4. With the exception of Bartlett Avenue, Laurel Creek Canyon and the Marburger unsubdivided area, the average ownership size is below one half acre. In Subarea I, along Monte Cresta, there are thirty-five owners owning 48 lots. The average ownership size is 9141 square feet. Thirteen owners, or 35% of the owners in this subarea have single lot ownerships under 6000 sq. ft..

Recent sales trends in the whole San Juan Hills Study Area indicate a trend to further fragmentation of ownerships, making regulation of development in accordance with natural conditions and infrastructure limitations more and more difficult throughout the area over time.

However, the overall ownership pattern in San Juan has not yet reached fragmentation of Monte Cresta. While over half of all the lots, 282, are less than 6000 sq. ft., the vast majority of those lots, all but 42, are parts of larger ownerships. There are still four or five owners with scattered, but larger overall holdings in the Study Area. The average ownership size still is between 12,000 - 20,000 square feet. The level of current ownership fragmentation, while a serious problem, still has not reached the level where all lots are in separate, very small ownerships. The more fragmented ownership becomes, the more difficult and complicated it is to use regulations and other techniques to create a desirable land use pattern.

There is a need to take action to stop the further fragmentation of ownerships and, even further to find means to encourage the recombination and redesign of lots to better fit the level of development to the natural conditions.

Figure 3



STATISTICAL SUBAREAS  
(NAMES AND LETTER  
IDENTIFICATIONS SHOWN  
ON MAP)

Statistical Subareas



CITY OF BELMONT  
**San Juan Hills Area Plan**  
City of Belmont Planning  
Department - GIS Unit  
March, 1998

Scale  
1" = 100'

UTM  
NAD 83

## 5. Current Regulation

On the whole, current regulation does not reflect the particular development constraints of the San Juan Hills. Nor does it prevent further fragmentation of ownerships or encourage recombination and redesign of lots.

The current zoning in the Study Area designates the unsubdivided land in Laurel Creek Canyon, the unsubdivided land adjacent to Bartlett and the unsubdivided land adjacent to Marburger as A, Agriculture and Open Space, with a one acre minimum lot size. This uniform designation does not reflect the variable conditions among different ownership parcels in this area, which range from a low average slope of 15% to a high average slope of 68%. The variability of slope conditions on ownership parcels also reflect the variability in geologic stability, vegetation types and coverage and drainage evident in the unsubdivided portions of the San Juan Hills.

The subdivided areas are designated R-1B. That zone currently requires a 6000 sq. ft. lot minimum for new subdivision, but does not impose a minimum lot size for building permits on existing lots. Thus, if each of the over two hundred lots in San Juan below 6000 sq. ft. were sold individually, each of lots could potentially be a separate building site, despite the natural constraints, infrastructure constraints and overall buildout impacts on views, open space and traffic.

The current zoning ordinance does address site development standards in the R-1B zone. The size of buildings are governed by a Floor Area Ratio (F.A.R.).

Section 2.60 of the Belmont Zoning Ordinance defines the gross floor area as "the sum of gross horizontal areas of several floors of a building, or a portion thereof." In practice, the City has not counted either the garage or uncovered decks when computing floor area.

The actual schedule of Floor Area Ratios was established in 1972 in Section 4.2.3(d).

The Floor Area Ratio is defined by three basic slope categories (0 - 30%, 30 - 45%, and 45%+). Within these ranges, the F.A.R. is set for lot sizes between 4000-10,000 sq. ft. While ratios are quite restrictive at the smallest lot sizes, ratios increase as the size of the lot increases. Any lot over 10,000 sq. ft. has a F.A.R. of 50% (i.e. a 10,000 square foot parcel could have a 5000 square foot structure) if its average slope is less than 45%. If its average slope exceeds 45%, any parcel over 10,000 square foot could have a F.A.R. of 40%, or a 4000 square

foot house on a 10,000 square foot lot. This is quite the opposite of most regulations of this type. Typically the F.A.R. decreases as the size of the lot increases. This inverse relationship accounts for part of the existing problem with oversized houses in San Juan. Not only does the house size increase in absolute terms as the lot size increases, it increases at a higher ratio.

Therefore, two factors account for the fact that the F.A.R. does not now work to prevent "oversized" houses. First, exclusion of the garage is significant; that typically represents 500 feet added onto a house. Second, increasing the F.A.R. as lot size increases adds significantly to oversized houses.

#### 6. Other Site Development Standards

Other site regulations in the Belmont Zoning Ordinance govern the size of building allowed on an individual lot. Section 4.2.3.(b) provides that lots shall have a minimum average width of 60 feet in the R-1B zone. Section 4.2.3.(c) provides for a minimum street frontage of 30 feet. Section 4.2.3.(e) provides a building height of two stories or thirty-five feet.

Frontyard setbacks in the R-1B district are 15 feet (Section 4.2.4). Sideyard setbacks for interior lots are designed to be 10% of the lot width, not less than 6 feet nor more than 9 feet (Section 4.2.5(a)). Corner lots have setbacks of 15 feet (Section 4.2.6).

Offstreet parking requirements for single family dwellings provide for two garage spaces for each dwelling unit (Section 8.4.1). Section 8.3.1 provides that each parking space is to be 9' x 20', thus requiring a minimum of 360 square feet of parking on site.

Several major gaps in site development standards have exacerbated problems of building in the steeply sloping San Juan Hills Area. First, current ordinance provisions (Section 2.67) regulating height measurement, do not provide for measurement of the entire structure height. In some cases, height can be understated by 10 feet or more. Second, current standards do not include requirements to minimize the visual impact of height, such as the break up of vertical surfaces, terracing and encouraging roof lines that are parallel to the slope. Third, there are no grading design standards in the zoning ordinance, establishing grading practices that minimize changes from natural grade.

Fourth, while the Allocation System(2) gives points for minimizing the removal of trees, there are no zoning ordinance standards governing revegetation of sites after development.

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(2) Citation for Initiative establishing allocation system.

C. INFRASTRUCTURE

Infrastructure includes water and sewer service, storm drainage facilities and roads.

1. Water Supply and Capacity.

Water to the San Juan area is supplied by the Belmont County Water District. According to the Water District, water mains exist in the presently developed area of San Juan and are ready for extension into the undeveloped areas. Presently, water mains are placed in street right-of-ways as the streets are improved; fire hydrants and individual supply lines hook up to the main.

There is adequate water supply, storage and pressure to serve residential buildout of vacant lots in the San Juan area. According to the Water District, it is their policy that land owners benefitting from the water improvements must finance the improvements.

The South County Fire District has pointed out that, though there is adequate water supply for domestic service in the San Juan area, there are places in the developed area of San Juan where there is inadequate pressure and volume to meet the needs of the Fire District. Existing mains are undersized or pressurized.

2. Sewage Collection System and Capacity.

Sewage collection in the San Juan area is generally accomplished by gravity flow through pipes in the street right-of-way or following special utility easements to the pump station on East Laurel Creek Road. From these collection points, sewage is pumped through a force main in San Juan Boulevard to Ralston Avenue where it continues by gravity, down toward the treatment plant. With improvements in the San Juan pumping facility and force main, completed in 1979, there is sufficient capacity for all potential future demand in the San Juan area. New sewer pipes will need to be extended into undeveloped areas to connect to existing trunk lines. Pump stations may also be required for some properties to connect to the existing gravity flow system. The financing and the maintenance of these pumping systems and connections to the existing trunk lines is an issue. The Committee had a desire that these improvements be privately financed and maintained so that City costs for new development are minimized. Another issue is the placement of sewer lines. Sometimes sewer lines are placed in rear easements. This makes maintenance more difficult. The City Public Services Department prefers that sewer lines be placed in the right-of-way.

### 3. Storm Drainage.

Damage from storm water has been a major problem in the San Juan area during the severe winter storms of the previous few years. The storm drainage system in the San Juan area has proven to be inadequate. Along San Juan Boulevard, houses have been built over the creek, decreasing the capacity of the creek to deal with storm drainage. There has been heavy erosion of the steep slopes, particularly in areas where vegetation has been cleared and earthwork done as a result of development. This causes sediment buildup during storms. Storm drain pipes are too small and have been blocked with soil and debris during storms. The result has been significant flooding. The San Juan area was a major focus of the work of the Storm Drainage Task Force organized by the City.

The Task Force has developed recommendations for storm drainage improvements in the San Juan area. A new parallel storm drain line discharging into East Laurel Creek is recommended for San Juan Boulevard. New lines and other improvements are also recommended for Ponce Avenue and the lower East Laurel Creek area. The Task Force also recommended that downdrains from the higher elevation streets, such as Belmont Canyon Road, be connected to the trunk lines on the Canyon floor along San Juan Boulevard.

The Committee was concerned that new development not create additional storm drain problems. One way to meet that objective is to insure that new development is sited away from creeks and storm drainage swales and that storm water is directed around houses into a storm drainage system. Other major concerns are insuring adequate information on the impact of new development on drainage basins and that the financial burden for needed storm drainage improvements be borne by developers.

### 4. Roads.

#### a. Existing Road System

Access to the San Juan Area is currently provided by three major access points from Ralston Avenue: (1) Christian Drive, leading to the Skymont Area; (2) Hillcrest Drive, leading to the Plateau Area; (3) and Cipriani Boulevard leading to the Cipriani Area and to San Juan Boulevard. Each of these access points is signalized at Ralston Avenue and located about equidistant from the others along Ralston Avenue. Minor access points exist at other points (i.e., Belmont Canyon Road, the "Horse Ranch").

There are several problems with existing road circulation in the study area: (1) the Skymont area has only one access/egress, at Christian Drive and Ralston Avenue; (2) there is no paved road connection or emergency access between the Skymont Neighborhood and the rest of the San Juan area; and (3) finally, many of the existing paved streets within the San Juan Area do not meet current City standards for curbs, gutters and pavement conditions, nor do they provide adequate offstreet parking. The main focus of this discussion is on unimproved roads in the San Juan Area.

b. Unimproved Roads in Subdivided Areas

(1) Current Status.

A large number of the streets in the Study Area are not improved. As shown on Figure 2, there are a few unpaved substandard streets, (like Marburger Avenue and Upper Lock Avenue) and many paper streets in the San Juan Area. Paper streets are streets that are shown on recorded subdivision maps for the area, but have not been built.

(2) Implications and Issues.

- (a) Geologic Hazards. Geologically distressed roads are a major public concern. Unstable or failed roads prevent safe access to homes, might interrupt utility service, and may interfere with provision of public services such as police and fire protection. Therefore, a high degree of safety for roads is of great public importance. Given the geologic hazards in the San Juan area, providing geologically safe access is both important to the community and difficult to implement.

Some of the existing unpaved, substandard and paper roads that would need to be developed to serve vacant subdivided lots pass through areas categorized as moving deep landslides. (Md - See Figure 4.) These are the most critical geologic hazards for roads. In their geologic study of the San Juan Area, Cotton and Associates recommended that no public or private roads be permitted in MD areas unless these hazards are removed. (See Table 6.)

Most of the undeveloped roads pass through some land areas categorized on Figure 4 as Potential



shallow landslide (Ps), Potential deep landslide (Pd), Potential debris flow movement (Pdf) or Actively moving shallow landslide (Ms). These are the areas where William Cotton and Associates felt roads should not be permitted, unless studies show that engineering solutions can make road development safe. Many of the geologic hazards along these roads can probably be mitigated. Some geologic hazards may not be mitigable, however. It will not be known, therefore, whether roads passing through areas categorized as Ps, Pd, Pdf or Ms can be built until specific geotechnical investigations for the roadway are completed.

- (b) Alternative Road Alignments. Alternative road alignments to provide geologically stable access to vacant land have been evaluated. In most cases, alternative alignments for the paper streets are not physically feasible. The fact that the paper roads run horizontally across the slope, while landslide hazards run vertically down the slope, makes it very difficult to move road alignments in order to avoid hazards. Combining this with the existing pattern of development, it is very difficult to find alternative alignments for these street that are measurably better than existing alignments.

In some instances, creation of cul-de-sacs on the ends of unimproved roads might be a viable alternative. These cul-de-sacs could limit extension of unimproved roads to right-of-ways where geologic hazards can be mitigated and a safe road constructed. Owners of property where road extension is infeasible or undesirable could be provided the opportunity to transfer their development rights to more appropriate development sites. However, any process to create such cul-de-sacs would need to determine and address the basic access rights of property owners whose parcels abut onto the mapped paper street. Such rights have been established by a long line of legal cases (e.g. Bacich vs. Board of Control, 23 Cal. 2d 343, (1943); Breidart vs. Southern Pacific Co., 61 Ca. 2d 659 (1964)).

- (c) Future Unimproved Road Development. If the City takes no action, some small extensions of the existing roads will take place where the problems with geologic hazards and slope are not too formidable. Lots at the northern end of improved Monte Cresta for example, might be built as

landowners created small extensions to that existing road. In the years to come, parts of streets like Bartlett Way and Naughton Way would probably be built. In the former case, the existing ownership pattern, with more lots held in common ownership, makes it more feasible to correct the geologic hazards and allow geologically safer roads to be built on the existing alignment. In the latter case, higher land values and relatively fewer hazards would allow road extension. Eventually, as land on the Peninsula becomes more and more scarce, someone may buy up lots along streets like Alhambra, Monte Cresta and the hazardous parts of Upper Lock and Marburger and attempt to build these roads as well.

- (d) Incremental Road Development. The incremental addition to roads in the San Juan area has created impediments to an overall resolution of area circulation problems. First, when incremental expansion occurs, the City is left without a plan for the physical design and financing of the rest of the road. Second, storm drainage problems have been created by this incremental road extension. Third, incremental road development allows roads to be extended and lots to be incrementally developed, leaving fewer and fewer owners responsible for financing what is likely to be the most expensive part of the road. Finally, incremental development further reduces already constrained opportunities to redesign the lot and road pattern. In 1985, the City Council addressed this problem of incremental road development, by adding a requirement to the residential allocation process that safe access must be in place or assured before an allocation for a residential building permit for a parcel will be granted. "Assured" means that the design for the physical improvement and the funding mechanism for the entire road has already been established before an allocation for a vacant lot will be granted. This change requires property owners of vacant lots on unimproved roads to provide the City with a plan for physical improvements and funding of the entire unimproved road before they will be granted an allocation to build a house. As a result of this policy, the City is not currently allowing incremental development of roads. The allocation process in which this policy is included will expire in 1990. Thus, the policy is a temporary requirement.

c. Roads in Unsubdivided Areas.

There are approximately 90 acres of unsubdivided land in the San Juan area, most of it in the Laurel Creek Canyon area between Ralston Avenue and Sugarloaf Mountain. Most of this unsubdivided land currently has no existing or planned road access. There are several issues related to the way future roads are developed in these areas.

(1) Access and Lot Configuration.

First, it will be difficult to provide access to all existing parcels in their current configuration without significant harm to the environment. This area is currently divided up into large (greater than one acre) parcels in separate ownerships. Future access to the parcels in separate ownerships is an issue for the City. Methods that allow the City to reconfigure lots or transfer densities away from lots where the provision of access is environmentally undesirable, have the advantage of avoiding the environmental problems of providing access to some of these lots. Since state law requires that the City allow some development rights for each of these ownership parcels, future access will need to be provided.

(2) Coordination of Road Development.

This unsubdivided area, particularly the Laurel Creek Canyon area, has significant scenic resources, natural resources and many geologic hazards. It is desirable to minimize the new roads that are built in this area to protect scenic and natural resources and avoid additional ground instability. This will require minimizing the length of roads in this area. A key to minimizing the roads is coordination of development plans among landowners. The worst possibility is that each landowner designs and builds roads to their own parcels on the basis of what best serves their particular parcel. This could result in more road development than is needed. Also, roads from one property can be built in a way that makes access difficult for adjacent landowners. Coordination of road development between landowners can assist both the City and the landowners in minimizing the number, length and cost of new roads developed.

(3) Protection of East Laurel Creek.

East Laurel Creek runs through the unsubdivided area. There is significant riparian vegetation along the banks of the creek. It creates both an attractive natural area, a habitat for wildlife and an important natural drainage area for the community. The flat area along the creek would also be one of the easiest areas to build roads for access into the unsubdivided area. However, this would result in the removal of important vegetation and decrease the value of the creek for storm drainage. It is necessary to determine how roads should be located in the Laurel Creek area, whether roads should be allowed to run parallel and close to the creek and whether bridges crossing the creek should be allowed.

(4) Protection of Sugarloaf Open Space.

Sugarloaf Mountain is in San Mateo. It provides an important undeveloped natural vista for the San Juan area. The San Juan Committee has expressed a desire that the City of Belmont not inadvertently encourage development of Sugarloaf by allowing roads to be built directly adjacent to the Mountain. The paper street East Laurel Creek Road runs along the boundary between Belmont and San Mateo adjacent to Sugarloaf. However, development of this street could facilitate or encourage the development of Sugarloaf. Development of this street is not necessary to serve any vacant lots in Belmont. The parcels along East Laurel Creek Road all have some alternative access, particularly those large undeveloped parcels north of Marsten Avenue.

(5) Through Access.

There is currently no improved through road connecting the Skymont area to the rest of the San Juan Canyon. Improving Marsten Avenue and the section of East Laurel Creek Road between Marsten Avenue and San Juan Boulevard could provide that through access. This would give people living in Skymont two ways to enter and exit the Skymont area.

The problems with paving and improving this road connection to San Juan Boulevard are: 1) The road would be adjacent to Sugarloaf, possibly facilitating the future development of Sugarloaf; 2) the road passes through an undeveloped scenic

area; 3) development of the road as a through street is not essential to serve any properties; and 4) traffic would be added to San Juan Boulevard. Some parts of Marsten would need to be extended from the Skymont Neighborhood to serve existing parcels, but a through road is not needed to serve adjacent property.

There are several alternatives to the development of a through road for all vehicles. One is to grade a narrow road as an unpaved emergency access road, slightly better than the existing one. This is, however, a difficult road to use. Another option is to pave the road but put gates at the ends of the road and use it exclusively for emergency purposes.

(6) Access From Ralston Avenue.

Should the unsubdivided areas have direct access to Ralston or should access to Ralston be via the Skymont area? Two large unsubdivided parcels front on Ralston Avenue. The major parcel is the "Horse Ranch" property. This property currently has a driveway from Ralston Avenue providing access. Access for more intense development of this property could be provided through the existing access, or by improving Green Court and Marsten Avenue, and connecting it to Christian Drive, which provides access to Ralston. This latter alternative would add traffic to Christian Drive, a problem for the residents along Christian Drive.

The major problem with providing access for any property in the San Juan area directly from Ralston Avenue is that Ralston Avenue is a very heavily travelled street. It is hazardous to add additional access points because of the raised median barrier along Ralston Avenue. Cars pulling out into the line of traffic from more roads and driveways is undesirable. Because of the median barrier, it would be particularly difficult for traffic travelling east to access new roads into the San Juan area off Ralston Avenue. Either new breaks in the raised median to allow left turns would be required or vehicles would need to use existing breaks to make U-turn and access the new roads. Either option has potential safety hazards.

d. Hillside Road Standards.

(1) Street Width.

The current City standards for public roads require a 50 foot right-of-way, with 30 feet of paving and a sidewalk on both sides. For private streets, a 28 foot paved roadway is required. The maximum street grade is set at 15%. In practice, with extensions to existing roads, the City allows the new road to match the width and characteristics of the existing street.

Providing the standard City right-of-way and paved area for new and improved roads in the hilly San Juan area could be inappropriate. Roads this wide require substantial grading. A narrower road width standard could be desirable for this area, if several issues can be resolved.

(2) Onstreet Parking

Many of the roads in the area currently have no onstreet parking. People park along the right-of-way in what is often a very haphazard manner. Providing onstreet parking along the entire length of the roadways, however, requires the construction of very wide roads. Parking adds eight feet to the paved area. Onstreet parking bays could be considered as a way to provide onstreet parking while being able to design narrower roads in steeper locations.

(3) Sidewalk

Many of the existing roads in the San Juan area do not have sidewalks. In addition to serving pedestrians, sidewalks also help control the storm drainage and provide shoulder protection and reinforcement to the asphalt roadway. However, sidewalks also add to the paved and graded area. Putting in sidewalks on streets where there are currently no sidewalks on connecting streets is of questionable benefit to pedestrians. Paths made of permeable materials may be appropriate in hillside areas to reduce the width of road right-of-way required and minimize the paved area. Sidewalks on only the uphill side of the street in hillside areas is another alternative.

(4) Alternative Standards

The City could develop a new hillside road standard that would be applied uniformly to all new or improved roads. Or, the City could be flexible and look at the appropriate standards for each road on an individual basis rather than developing one standard for the width, parking and sidewalk requirements for all roads.

e. Public Vs. Private Ownership and Maintenance.

Improvement of streets in this area has traditionally been financed by adjacent property owners. After improvement, the City has traditionally maintained those streets. The San Juan Committee looked at the issue of whether public or private ownership and maintenance of streets is desirable.

(1) Advantages and Disadvantages of Public Roads.

There are advantages to having public roads maintained by the City. Residents along public roads do not have to worry about maintenance or bear large costs from catastrophic occurrences along a road. Historically, the City has been able to require and enforce better construction standards and maintenance for public roads. Also, other communities have experienced problems with private roads that don't occur with public roads. These are: 1) problems with enforcement of the vehicle code, and 2) problems with property owners' associations or other groups responsible for the maintenance of roads allowing the roads to go into disrepair and then asking the City to take over the maintenance of deteriorated roads.

The major disadvantage of public roads is the cost to the City of the maintenance of public roads and the risks of high road costs in stable areas. In contrast, the City does not have to sweep, clean, sign, or repair private roads. Although the quality of development and maintenance of private roads has been a problem, the City can require private developers to improve and maintain roads as part of the conditions of development and can enforce those conditions. The City can require that a financially stable group, (i.e. a homeowners

association) be responsible for maintaining a private road.(3)

(2) Impediments to Private Roads.

(a) Financing.

One impediment to private roads is that the property owners cannot use special assessment districts to finance the road improvements. (Streets and Highways Codes, Section 10111) Assessment districts require an agreement among the owners of 60 per cent of the assessed value in the district and the approval of the City Council. They cannot, however, be used for private roads. This limits the ways owners can finance improvement of private roads.

(b) Dedication Status of Unimproved Roads.

The original subdivisions of the San Juan area were processed in December, 1926 and early 1927. There is confusing language on the subdivision maps relating to road dedications. Both the City and the Board of Supervisors approved the subdivision maps for the area inside their respective jurisdictions. (See 1926-7 City/County boundary on Figure 2) The City accepted the street dedications offered by the subdivider at the time of subdivision. The County rejected them. Therefore, only the unimproved streets located in the City at the time of subdivision are dedicated public streets. Table 5 is a summary of the status of unimproved street dedications in the San Juan area. Of the streets the City accepted, only Upper and Lower Lock Avenue and Monte Cresta Drive were accepted by the City with an agreement for maintenance. The City did not accept maintenance responsibility for the other street dedications.

Two of the streets, Naughton Avenue and Green Court, are not dedicated public streets. They were in the County unincorporated area at the

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- (3) The possibility that the assessment district that could also pay for maintenance of public streets, has been suggested. This is an alternative that the City could pursue which would overcome some of the financial problems with the City of allowing public roads.



time of subdivision and the County rejected their dedication. Likewise, sections of East Laurel Creek Road, Bartlett Way, Marsten Avenue, and Marburger Avenue are not dedicated public streets. The rights-of-way shown on the subdivision map for these roads are private easements. Essentially, the owners of property on each side, own the land to the center of the right-of-way.

Under current City policy, the responsibility for improving all the unimproved roads, including the dedicated streets, will be with the property owners. However, the streets which have been accepted by the City are City property. Therefore, the City would be responsible for maintaining these streets adequately to protect public safety. It is very difficult to abandon dedicated public streets so they can be privately owned and maintained.

Private ownership, development and maintenance of roads is clearly an option for the streets where the original dedication was rejected and for new roads that are built in the currently unsubdivided area. The City can also abandon dedicated public streets, so they can be privately owned and maintained. This is difficult to do, because it requires the agreement of abutting landowners. Generally, cities have had problems with abandoning public streets.

TABLE 5  
STATUS OF DEDICATION OF UNIMPROVED STREETS  
IN THE SAN JUAN AREA

STREET NAME	ROAD DEDICATION ACCEPTED BY CITY(1)		UNIMPROVED ROAD DEDICATION REJECTED(2)
	WITH MAINTENANCE	WITHOUT MAINTENANCE	
LOCATED ENTIRELY WITHIN CITY LIMIT WHEN SUBDIVIDED:			
Alhambra		X	
Monte Cresta	X		
Upper Lock	X		
Lower Lock	X		
San Ardo Way		X	
PART LOCATED IN COUNTY WHEN SUBDIVIDED:			
E. Laurel Ck.Rd.		part(3)	part(4)
Bartlett		part	part
Marsten Avenue		part	part
Marburger		part	part
LOCATED ENTIRELY IN COUNTY WHEN SUBDIVIDED			
Naughton			X
Green Court			X

- (1) Only refers to those parts of streets which are currently unimproved.
- (2) Unimproved street located in the County unincorporated area at time of subdivision. County rejected offer of dedication.
- (3) Part of the street located within City boundaries in the 1926-7's.
- (4) Part of the street located within County boundaries in the 1926-7's.

## GOALS, OBJECTIVES AND POLICIES

### NATURAL CONDITIONS

The City will:

#### GOALS AND OBJECTIVES:

1. Geologic Stability.

Ensure a high level of geologic stability for building sites, structures and infrastructure.

2. Information on Geologic Hazards.

Improve the City of Belmont decision making process pertaining to geologic hazards in the San Juan area.

3. Minimize Public Liability and Private Injury.

Minimize public liability and private injury for hazardous lands.

4. Preserve Natural Resource.

Preserve vegetation and other natural resources in the San Juan Hills Area.

5. Preserve Public Views.

Preserve public views into, within and from the San Juan area, particularly public views of natural areas.

6. Encourage Open Space Protection.

Encourage the preservation of open space in areas of scenic, natural resource and recreational value, as well as areas that are geologically hazardous, steeply sloped and susceptible to erosion.

#### POLICIES:

#### GEOLOGIC HAZARDS:

1. Adoption of Geologic Maps.

- a. Use the Engineering Geologic Map and Ground Movement Potential Map prepared by William Cotton and Associates in April, 1985 as the official geologic maps of the City. These maps will be used for the purpose of determining the relative geologic stability of land when reviewing

development applications, public works improvements and assessment districts in the San Juan Hills Study Area.

- b. Update and improve the official geologic maps based upon new and detailed engineering geology and soils reports and the recommendations of the City Geologist. Establish procedures for updating these maps.

2. Required Geotechnical Investigations.

Require the following geotechnical reports to accompany applications for development and assessment districts:

- a. On slopes steeper than 10%, soil and foundation engineering investigation by a registered civil engineer.
- b. On lands shown in Figure 4, except those stable areas categorized as Sbr or Sun, engineering geologic investigation by a certified engineering geologist. The investigation shall evaluate the natural slope conditions and provide recommendations for mitigating and/or correcting any unstable conditions that will assure the safety of the proposed development: (1) The City will develop standards for these reports; (2) The results of these investigations will be reviewed and approved by a Geologist hired by the City; (3) The recommendations for mitigation and/or correction will become conditions of the application.

3. Geologic Hazards and Land Use Policy.

- a. Adhere to the land use policies in Table 6, Geologic Hazard Criteria for Development. When land uses not listed in Table 6 are under review, the City will use this table as a general guide for evaluating that proposal.
- b. Applications for alterations, repairs or additions to existing structures on currently paved roads may be considered acceptable deviations from this table, if they would not adversely affect the existing stability of the site and structure.

TABLE 6. GEOLOGIC HAZARD CRITERIA FOR DEVELOPMENT







SYMBOL	GEOTECHNICAL PARAMETERS	LAND USE				
		Residential 1 unit/ acre	7 units/ acre	Planned Development	Roads Public Private	Water Tanks
Sbr	Bedrock with thin soil	Y	Y	Y	Y	Y
Sun	Unconsolidated sediment	Y	Y	Y	Y	Y*
Sex	Highly expansive soil	Y*	Y*	Y*	Y	Y*
Sff	Fill on nearly flat ground	Y*	Y*	Y*	Y*	Y*
Pfs	Potential settlement or failure of fill on a moderate slope	Y*	Y*	Y*	Y*	N*
Ms	Actively moving shallow (< 10') landslide	N*	N*	N*	N*	N*
Ps	Potential shallow (< 10') landslide failure	Y*	Y*	Y*	Y*	N*
Pd	Potential deep (≥ 10') landslide failure	N*	N*	N*	N*	N*
Md	Actively moving deep (≥ 10') landslide	N	N	N	N	N
Pdf	Potential debris flow movement	N	N	N	N	N

Y Yes (permitted)  
Y\* The land use would normally be expected to be permitted, provided the geologic data and/or engineering solutions are favorable. However, there will be instances where the use will not be appropriate.  
N\* The land use would normally be expected not to be permitted. However, there will be circumstances where geologic data and/or engineering solutions will permit the use.  
N No (not permitted). The map must be changed to show that this hazard does not exist before development will be allowed. The map change must be based on a demonstration that the map was in error or that improvements have been undertaken which change the geology and remove the hazard.

SOURCE: William Cotton and Associates



Figure 4

- |   |     |  |
|---|-----|--|
|  | Su  | DEVELOPMENT AND ROAD EXPANSION PERMITTED   |
|  | Su* | DEVELOPMENT AND ROAD EXPANSION CONDITIONALLY PERMITTED   |
|  | Pd  | DEVELOPMENT AND ROAD EXPANSION NORMALLY NOT PERMITTED UNLESS HAZARDS ARE MITIGATED                                   |
|  | Pd* | RESIDENTIAL DEVELOPMENT NOT PERMITTED UNLESS CONDITION IS DEMONSTRATED OR IS ELIMINATED                              |
|  | Md  | DEVELOPMENT AND ROAD EXPANSION NORMALLY NOT PERMITTED UNLESS HAZARDS ARE MITIGATED                                   |
|  | Md* | DEVELOPMENT AND ROAD EXPANSION NORMALLY NOT PERMITTED UNLESS CONDITION IS DEMONSTRATED NOT TO EXIST OR IS ELIMINATED |

NOTE For a full explanation of geological designations see text

Source for Geological Information: William Cotton and Associates, April, 1985

# Geologic Hazard Policy Map

CITY OF HILMONT  
**San Juan Hills Area Plan**  
 City of Hilmont Planning Department  
 March, 1988







4. Mitigate Geologic Hazards Posing a Moderate Hazard to Residential Development.

Require mitigation of geologic hazards prior to development of residences and other structures in areas where there are moderate geologic hazards for residential development, that is areas categorized as Sex, Sff, Pfs, Ps, Pd and Ms (See Figure 4).

5. Mitigate Geologic Hazards Posing a Moderate Hazard to Road Development.

Require mitigation of geologic hazards prior to development of roads in areas where there are moderate geologic hazards for road development, that is, areas categorized as Sff, Pfs, Ps, Pd, Ms and Pdf (See Figure 4).

6. Restrict Development in Critical Geologic Hazard Areas.

Restrict development where geologic hazards pose a critical hazard by the following means:

- a. Prohibit the building of new residences in areas categorized as Potential Debris Flow Movement (Pdf - See Figure 4). Require the removal of this hazard prior to residential construction, consistent with Table 6.
- b. Prohibit the extension of roads and building of structures in areas categorized as Moving Deep Landslide (Md - See Figure 4). Require the removal of this hazard prior to development, consistent with Table 6.
- c. Encourage the redesign, recombination and transfer of building rights to areas outside these two critical geologic hazard areas (Md and Pdf).

STEEP SLOPES:

7. Relate Land Use to Slope Characteristics.

Ensure that the density (units per acre) and intensity (size of each unit) of residential use is related to the slope characteristics of parcels in the San Juan hills in order to assure safe development and minimize risk of injury and property damage. Allow fewer and smaller units on parcels as the steepness of the lots increases.

**NATURAL RESOURCES:**

**8. Protect Vegetation.**

Ensure that development will:

- a. minimize the removal of vegetation,
- b. protect and restore vegetation which stabilizes soils and reduces surface water runoff, erosion and sedimentation,
- c. protect historic and scenic trees, and
- d. provide revegetation of all significant tree cover.
- e. promote the use of native trees and plants in new landscaping.

**9. Protect Streams and Creeks.**

Protect streams and creeks by:

- a. requiring that development, including roads, is set back from riparian corridors, and
- b. preventing road alignments that cross creekbeds.

**10. Protect Wildlife Habitat**

Protect wildlife habitat by siting and designing new development to maintain portions of existing habitats in undeveloped areas.

**11. Grading Design Standards.**

Establish design standards for all grading, including grading for geologic mitigation and the development of roads and houses, to ensure that:

- a. changes from natural grade are minimized,
- b. stabilization planting for grading areas is provided prior to the normal rainy season, and
- c. standards to minimize erosion from hillside grading operations are developed.
- d. site preparation and grading is visually harmonious with surrounding land.

12. Restrict Winter Construction.

Restrict earthmoving operations during the winter to minimize erosion and slope destabilization.

VIEWS:

13. Protect Public Views.

- a. Site and design new development and landscaping to protect public views, particularly from Ralston Avenue to Laurel Creek Canyon, Sugarloaf and San Francisco Bay.
- b. Site and design structures to maximize public view preservation.

OPEN SPACE:

14. Encourage Clustered Development.

Cluster development wherever possible on the most developable portion of an area, leaving the maximum portion of the site in its natural state.

15. Protect Sugarloaf Mountain as Open Space.

- a. Create an open space buffer between development on vacant parcels in the San Juan Hills and Sugarloaf Mountain.
- b. Cooperate with the City of San Mateo in efforts to protect and provide open space on and adjacent to Sugarloaf Mountain.

16. Private Open Space.

Assist private landowners in finding ways for them to manage and permanently preserve private open space.

17. Discourage Acquisition of Land with Critical Geologic Hazards.

Discourage the acquisition by the City of Belmont of land with critical geologic hazards which would create liability problems for the City. Land with critical geologic hazards is land that is categorized as Pdf (potential debris flow) or Md (moving deep landslide) on Figure 4.

18. Public Greenbelt.

Pursue creation of a continuous greenbelt of publicly owned open space that will:

- a. be appropriate for passive recreational uses,
- b. exclude critical geologic hazards, that is land categorized as Pdf or Md on Figure 4.
- c. afford protection of creek areas, and
- d. provide a physical connection from the San Juan area to Sugarloaf Mountain.

## LAND USE AND SITE DEVELOPMENT STANDARDS

The City will:

### GOALS AND OBJECTIVES:

1. Preserve Existing Residential Areas.

Preserve and enhance the character of existing established residential areas.

2. Reflect Natural Constraints in Land Use Planning.

Achieve a land use pattern, density and distribution of development that is consistent with the existing slopes and geologic hazards in the currently undeveloped parts of the San Juan Area.

3. Minimize Buildout of Vacant Subdivided Land on Unimproved Roads:

Minimize the buildout of existing vacant subdivided lots in those areas where buildout would be geologically hazardous, require major road extensions and improvements and degrade natural resources and public views.

4. Minimize Traffic Impacts.

Achieve a land use pattern that would minimize traffic impacts, especially impacts on Ralston Avenue.

5. Preserve Open Space in Laurel Creek Canyon:

Preserve the most important open space in Laurel Creek Canyon, especially the riparian corridor along Laurel Creek.

6. Design of Structures:

Ensure that new structures are designed to protect the visual and natural resource quality of the hillsides.

### POLICIES:

#### LAND USE:

1. Land Use Designations.

Designate land use in the General Plan as shown on Figure 5, Land Use Policy Map, based on the following criteria:



Figure 5

LAND USES

① R1 LOW DENSITY RESIDENTIAL

② **R1P** HILLSIDE RESIDENTIAL AND OPEN SPACE

VACANT SUBDIVIDED AREAS



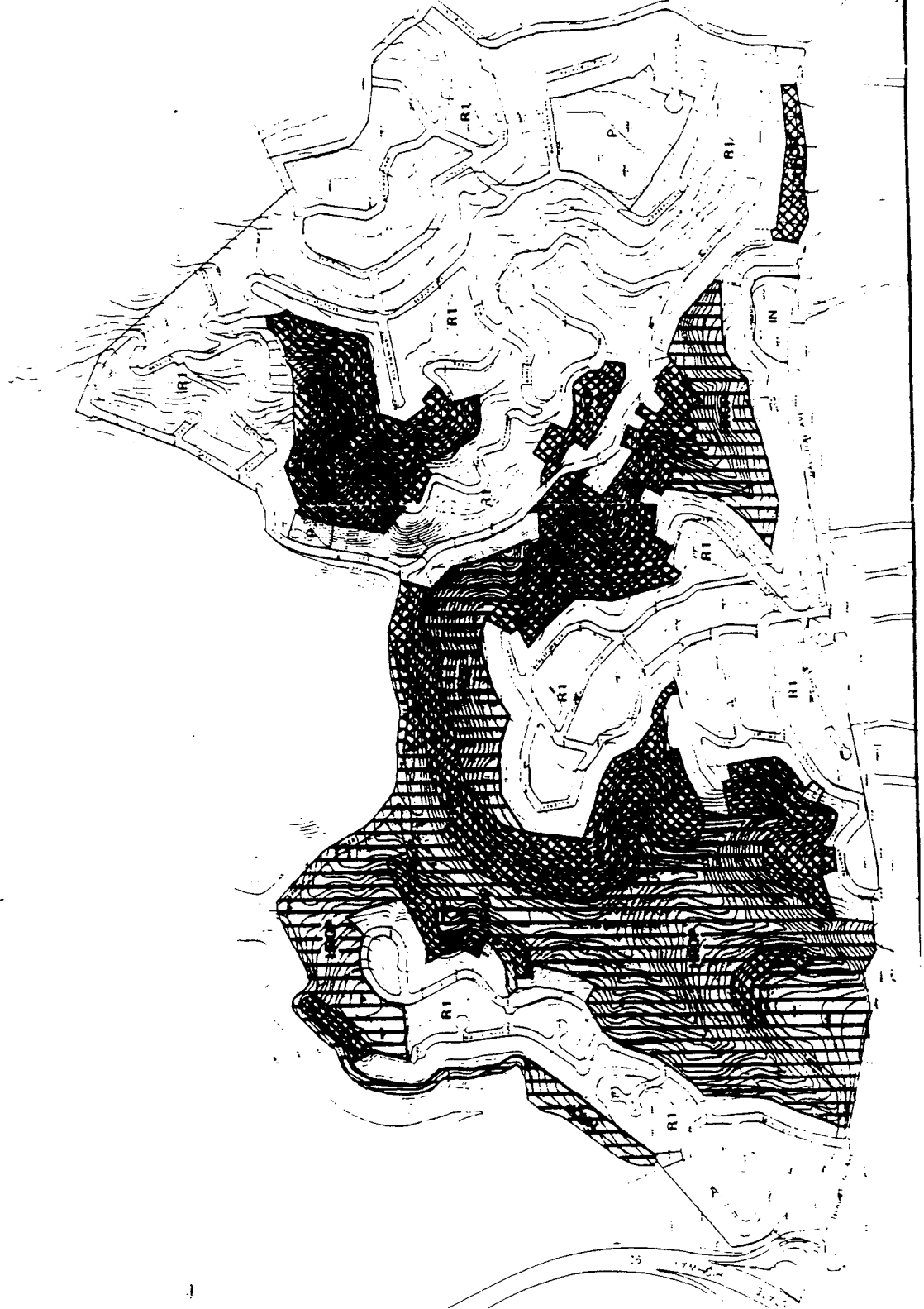
VACANT UNSUBDIVIDED AREAS



③ P PUBLIC FACILITIES

④ IN INSTITUTIONAL

Land Use Policy Map



CITY OF BIRMINGHAM  
San Juan Hills Area Plan

PLANNING  
BIRMINGHAM, AL  
MAY 1978





- a. Designate as Low Density Residential (R1) those lands adjacent to improved roads in a predominately developed residential area. Development of vacant lots in Low Density Residential Areas is considered infill to an existing developed neighborhood.
- b. Designate as Hillside Residential and Open Space (HROP) large unsubdivided parcels and land adjacent to unimproved roads which is predominately vacant and suitable for open space or very low density Residential use because of steep slopes, unstable soils, scenic or natural resource value and lack of access.
- c. Designate as Institutional those areas suitable for and used for institutional facilities, such as churches.
- d. Designate as Public Facilities lands used primarily for governmental and educational purposes.

**LOW DENSITY RESIDENTIAL AREAS:**

2. Permitted Land Uses and Density in Low Density Residential Areas, Institutional and Public Facilities Areas.

Determine permitted land uses and densities in areas designated low density residential, institutional and public facilities based on the policies of the Belmont General Plan.

3. Control House Size in Low Density Residential Areas.

Protect the character of residential neighborhoods by insuring that house sizes are visually compatible with the size and slope of the lot on which they are located and the size of the majority of existing houses around them.

4. Prohibit New Subdivisions in Low Density Residential Areas.

Prohibit subdivisions that would create additional lots in the areas designated low density residential.

HILLSIDE RESIDENTIAL AND OPEN SPACE AREAS (HROP):

5. Density and Hillside Residential and Open Space Areas.

- a. Base the density (number of dwelling units) permitted on the slope of the land. The density permitted should generally range between .3 and 4.4 dwelling units per net acre based on the average slope of the parcel. Higher densities are permitted to promote clustering and recombination of lots.
- b. The density of development should be most restrictive in areas with greater than 30% average slope, moderately restrictive in areas with 15-30% average slope and least restrictive in areas with average slopes of 15% or less.
- c. Develop slope density regulations to implement this policy.

6. Permitted Land Uses in Hillside Residential and Open Space Areas.

- a. Permit single family detached dwelling units. Permit clustered development of detached single family homes to preserve open space.
- b. Permit uses which are normally accessory to residential uses and, under appropriate controls, institutions and public facilities such as churches and schools.
- c. Permit public and private recreational uses.

7. Lot Merger in Hillside Residential and Open Space Areas.

Merge existing contiguous lots held in the same ownership when one or more of the contiguous parcels does not conform to the standards for minimum lot size required by the slope density ordinance. At least one of the affected parcels must be undeveloped by a structure.

**HROP - VACANT, SUBDIVIDED AREAS:**

**8. Control the Size and Limit the Number of Houses in Vacant Subdivided Areas in the Hillside Residential and Open Space Area.**

- a. Establish regulations to govern the permitted size of residences in the vacant subdivided areas shown on Figure 5. These regulations will limit the size of the permitted residence based on the size, slope, and location of the lot. The intent of these regulations is to insure that new houses are not too large for the slope and size of their lot, to limit the number of houses in vacant subdivided areas and to facilitate the recombination of small, vacant lots in order to assure safe development and minimize risk of injury and property damage.
- b. These regulations shall establish a minimum and maximum house size. They shall be designed so that, as much as possible, houses constructed are large enough to be visually compatible with existing residences, but limited in size so that their visual, natural resource and safety impacts are minimized.
- c. These regulations may be more restrictive for lots which have a critical geologic hazard for residential development, namely they are predominantly characterized as Pdf or Md on Figure 4. The intent of making regulations more restrictive for these lots would be to discourage the development of unsafe houses, and to encourage owners to transfer their permitted development potential to owners of lots in areas that are more geologically stable.

**9. Density Transfer in Vacant, Subdivided Area.**

- a. Allow property owners to voluntarily transfer the development potential they are permitted by the regulations proposed in Policy 8 along the roadway on which they are located. This transfer is permitted in order to permit the construction of houses on lots close to existing roads and eliminate development potential on lots in areas with the most critical geologic hazards and farthest from existing roads.
- b. The City shall establish regulations permitting land owners to sell the development potential permitted them by the regulations implementing

Policy 8 to owners along the same roadway. Land owners who elect to sell all of their development potential shall be restricted to permanent open space. Adequate and permanent arrangements for the long term ownership, management and maintenance of these sending parcels shall be required.

- c. Regulations shall be developed to provide incentive to land owners who purchase the development potential. These incentives may include reduced minimum lot sizes, increases in the sizes of houses, or density bonuses.

10. Voluntary Reconsolidation of Vacant Subdivided Parcels in Hillside Residential and Open Space Areas.

Promote voluntary reconsolidation of vacant subdivided parcels by: (1) encouraging owners along unimproved roads to pool their development capability in an overall resubdivision of the current subdivision pattern; (2) providing landowners with additional points in the Allocation System for participation in overall resubdivision or purchasing transferred density; (3) providing technical assistance to landowners in working together to resubdivide or transfer density and (4) accepting open space easements on restricted land to allow property tax reductions.

HROP - VACANT, UNSUBDIVIDED AREAS:

11. Maximum House Size in Vacant, Unsubdivided Hillside Residential and Open Space Areas.

Establish a maximum house size in these areas.

12. Require the Coordinated Development of Parcels in Laurel Creek Canyon.

- a. Require that applicants for subdivision demonstrate how their proposals for roads and for the creation of new parcels have considered adjacent parcels and methods to minimize the number and length of roadways and protect natural resources in Laurel Creek Canyon.

- b. Require that proposals for subdivision maximize the preservation of natural resources, particularly riparian habitats and protect the visual character of the Laurel Creek Canyon. Encourage clustering of development when it promotes these objectives.

SITE DEVELOPMENT STANDARDS:

13. Design of Structures.

Ensure that structures are designed to:

- a. conform to the topography of their site,
- b. be visually compatible in size and scale with their building site and the predominant character of existing development in the community.

14. Control Building Height.

- a. Ensure that the permitted height of structures reflects lot slope and restricts the overall bulk of structures in hillside locations.
- b. Control the design of structures so that large vertical surfaces and roof surfaces are broken up and terracing of homes in hillside areas is encouraged.

## INFRASTRUCTURE

The City will:

### GOALS AND OBJECTIVES:

1. Adequate Improvements.

Ensure that adequate infrastructure improvements are available before permitting development to proceed.

2. Protect Natural Resources and Existing Neighborhoods.

Design and locate infrastructure improvements to protect natural resources and existing neighborhoods.

3. Limit City Cost.

Minimize the City's costs for building and maintaining infrastructure improvements for new development.

4. Safety of Road Improvements.

Ensure that road improvements are geologically safe and do not create traffic safety hazards.

### POLICIES:

#### WATER AND SEWER:

1. Financing of Improvements.

Ensure that the installation of water and sewer utilities to serve the development of private property will be financed by the benefitting property owners. Such improvements include, but are not limited to: water main extensions, individual supply lines, fire hydrants, new sewage collection lines and pump stations.

2. Location of Water Mains and Sewage Collection Lines in the Street Right-of-Way.

Require that water mains and sewage collection lines be located in the street right-of-ways for ease of maintenance.

### STORM DRAINAGE:

3. Required Storm Drainage Investigations for New Development.

Require that applications for new land subdivisions and other development impacting storm drainage include information on the impact of this development on storm drainage and actions that can be taken to insure that negative storm drainage impacts are mitigated.

4. Regulation of Development to Minimize Storm Drainage Problems.

- a. Prohibit development on creeks or storm drainage swales.
- b. Require improvements to insure that storm water is directed around structures and into a storm drainage system.

5. Financing of Storm Drainage Improvements.

Ensure that the cost of storm drainage improvements to serve new development is financed by the benefitting property owners.

6. Implementation of Storm Drainage Task Force Recommendations.

Encourage the implementation of the recommendations for storm drainage improvements in the San Juan area made by the Storm Drainage Task Force.

### ROADS:

7. Prohibit the Extension of Roads into Areas with Moving Deep Landslides.

Prohibit the construction of roads in areas of deep, moving landslides (MD - See Figure 4). Require the removal of such hazards prior to the extension of roads, consistent with Table 6.

8. Mitigate Moderate Geologic Hazards Prior to Road Improvement.

Implement appropriate mitigation, as recommended by the geotechnical investigation, for each application to improve and extend roads into areas of moderate

geologic hazards. These are areas categorized as Sex, Sff, Pfs, Ps, Pd, Pdf and Ms (See Figure 4).

9. Minimize Road Improvements to Protect Natural Resources.

Minimize the improvement of existing unimproved roads and the development of new roads where: (a) there are steep slopes, and substantial grading would be required; (b) stands of existing trees or other major vegetation resources would be removed or (c) existing creeks and riparian corridors would be affected.

10. Require Overall Road Improvement, Plans and Financing Prior to Granting any Building Permits on Unimproved Roads.

Require property owner(s) to resolve the design and financing of road improvements along the entire unimproved road on which their property is located prior to receiving a building permit for a new structure or enlargement of an existing structure. This requirement is established in order to assure safe access for emergency vehicles and the construction of safe roads and adequate storm drainage improvements. This requirement can be accomplished in either of the following ways:

- a. the property owner(s) submit and the City approves a plan for improving the entire roadway which includes: (1) a design for the physical improvement of the entire road to provide safe, all weather access prior to building construction; (2) evidence that the road is geologically safe and does not pass through moving deep landslides (Md - See Figure 4); (3) a method and timetable for financing proposed road improvements; and (4) a method and financing for road maintenance, if the road is to be maintained as a private road.
- b. The property owners submit and the City approves a plan for improving a section of the roadway between an existing paved road and an area where physical constraints make further road extensions infeasible or undesirable. Examples of these constraints are extremely steep slopes and areas categorized on Figure 4 as moving deep landslides (Md). This plan shall include: (1) a design for the physical improvement of the proposed road section to provide safe, all weather access prior to building construction; (2) demonstration that

Policy  
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the road section will be geologically safe; (3) a method and timetable for financing proposed road improvements; (4) a method and financing for maintenance of the road, if the road is to be maintained as a private road; (5) a plan for the access for properties located along the rest of the roadway which will not be served by the proposed roadway section; and (6) evidence of participation and support for the proposed plan by affected landowners.

- c. Funding for public roads can be by assessment district, reimbursement agreement or other mechanism.

11. Encourage and Assist Property Owners of Vacant Subdivided Property in Developing Alternative Access Plans.

Encourage and assist owners of vacant subdivided property on unimproved roads in working together to develop plans described in Policy 10.b for cul-de-sac roads to avoid road development on steep slopes and in geologically hazardous areas, while assuring that the basic access rights of all abutting property owners are respected.

12. Development of Road Access to Property in Laurel Creek Canyon.

- a. Encourage property owners in Laurel Creek Canyon to coordinate plans for development of road access to achieve the minimum length of roadway, and the most environmentally sound road alignment.
- b. Setback all roads from East Laurel Creek and prohibit roads from culverting, filling, or channelizing East Laurel Creek.
- c. Locate roads away from Sugarloaf Mountain. Discourage the improvement of East Laurel Creek Road north of Marsten Avenue to protect Sugarloaf Mountain. Pursue alternative access for vacant lots along this section of East Laurel Creek Road.

13. Provide Emergency Access Between the Skymont Neighborhood and the Rest of the San Juan Area.

Maintain and grade the unimproved portion of Marsten Avenue and the section of East Laurel Creek connecting

the Skymont Area and San Juan Boulevard as a gated unpaved road for emergency vehicular use only.

14. Maintaining Marburger Road as a Gated Road.

The City prefers that Marburger Road be maintained as a gated road with through access for emergency vehicles only.

15. Limit Access Directly to Ralston Avenue.

- a. Discourage additional access points on to Ralston Avenue. Pursue, to the ~~maximum~~ extent possible, alternative access for undeveloped parcels.
- b. Allow a direct access from the "Horse Ranch" onto Ralston Avenue, with the traffic flow limited to westbound traffic only. Provide other access via Christian Drive and Marsten to other properties and for eastbound traffic to the property.

16. Hillside Road Standards.

- a. Develop special hillside road improvement standards, including but not limited to right-of-way width, on-street parking, sidewalks, paving requirements and ~~maximum~~ street grade. Such standards will apply to both private and public streets. They should permit road standards to be responsive to local physical conditions.
- b. Minimize the right-of-way and the paved area of the road in order to lessen the amount of grading and vegetation removal, while maintaining adequate width for emergency vehicles and required parking.
- c. Provide some on-street parking. Consider parking bays at intervals along the road as a mechanism for providing this parking, particularly to facilitate the construction of narrower roads in steep locations.
- d. Consider the use of paths and narrower sidewalks where this is an appropriate alternative to sidewalks in steep areas.

17. Require that New Development Finance Road Improvements.

Require that applicants for new development benefitting from road extension and road improvement

finance the cost of such improvements, including but not limited to road design, drainage, mitigation or elimination of geologic hazards, and construction.

18. Public Roads. Acceptance of Road Dedication.

After new roads, (including the improvement of currently unpaved roads) have been improved to standards acceptable to the City, the City shall accept road dedications and the responsibility for maintaining these roads as public roads.

19. Requiring Undergrounding of Utilities.

Require that all new utility lines and extensions of utility lines be placed underground.

#### IV. ACKNOWLEDGEMENTS

##### CITY COUNCIL:

Gary Orton, Mayor  
David Bomberger, Vice Mayor  
George R. (Dick) Green, Councilman  
William Hardwick, Councilman\*  
Donald Heiman, Councilman\*  
Robert Hoffman, Councilman  
Edward Rodriquez, Councilman

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